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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,388	12/28/2001	Luying Sun	POLICE 3.0-001	8729

7590

12/09/2004

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EXAMINER

CANTELMO, GREGG

ART UNIT PAPER NUMBER

1745

DATE MAILED: 12/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/034,388

Applicant(s)

SUN, LUYING

Examiner

Gregg Cantelmo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 9/28.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 15-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 28, 2004 has been entered.

### ***Response to Amendment***

2. In response to the amendment received on September 28, 2004:
- a. Claims 1-13 have been cancelled. Claims 14-25 are pending;
  - b. The 112 rejections set forth in the previous office action have been withdrawn in light of the amendment;
  - c. The prior art rejections employing Shinomura as the primary reference stand as modified to the amended claims;
  - d. The remaining prior art rejections of record are withdrawn in light of the amendment.

### ***Claim Rejections - 35 USC § 102***

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 14, 16 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by GB 2117172A (Bodendore).

Bodendore discloses a battery comprising at least one positive electrode, at least one negative electrode, an electrolyte and a microporous membrane (page 1, ll. 57-58) comprising a hot-melt adhesive (disclosed as an acrylate binder Example 1), engineering plastic (polyester fiber in Example 1), and filler having a median particle size of 4.9 microns (Example 1 as applied to claim 14).

The filler which can be silica is present at a lower range of 50 weight percent (page 2, ll. 25-30 and page 3, ll. 6-31 as applied to claim 16).

With respect to claim 21:

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292

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(Fed. Cir. 1983). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

Claim 21 is void of any characteristics or particular features which are only obtained through heat activation. The prior art of record provides a microporous membrane in the same manner as claim 14 and binds the membrane to the electrodes. Therefore the prior art of record has the same claimed configuration.

### ***Response to Arguments***

4. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 14, 16, 21-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinomura.

Shinomura discloses a separator which is used in a battery (a battery inherently comprising a positive electrode, negative electrode, electrolyte and porous separator membrane), wherein the membrane comprises a hot-melt adhesive and an engineering plastic (abstract, col. 1, ll. 5-9 and col. 2, ll. 30-40). The adhesive and engineering plastic are mixed in a molten state and thus provides a homogeneous mixture (note that the instant claims lack recitation to the degree of homogeneity as applied to claims 14).

With respect to claim 21:

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

Claim 21 is void of any characteristics or particular features which are only obtained through heat activation. The prior art of record provides a microporous membrane in the same manner as claim 14 and binds the membrane to the electrodes. Therefore the prior art of record has the same claimed configuration.

The adhesive is an ethylene/vinyl acetate copolymer having a melt index of 0.2 to 500 and containing 2 to 50% by weight of a vinyl acetate unit; an ethylene/acrylic acid copolymer containing 2 to 50% by weight of an acrylic acid unit (col. 4, ll. 35-45 as applied to claim 22).

The engineering plastic can be polymethyl methacrylate (prior art claim 9 as applied to claim 24).

The differences between claims 14 and 16 and Shinomura is that Shinomura does not disclose a filler having an average particle size of less than about 50 microns (claim 14) or of the filler present in an amount of about 2% to about 50% of the membrane weight (claim 16).

A filler such as calcium carbonate, silicon dioxide, titanium dioxide, and calcium carbonate can be added to the mixture (Shinomura col. 14, ll. 37-42). Thus Shinomura suggests providing fillers in the separator. Shinomura does not specify the average particle size of the fillers.

Use of filler having an average particle size of less than about 50 microns is well established in the battery separator design. An inorganic filler is added to separators in a weight percentage of less than 50% by weight and has an average particles size ranging from 0.01-3 microns or from 0.1-20 microns (see Sheibley's abstract and col. 3, ll. 8-20 and 38-45 and col. 4, ll. 60-66).

The motivation for adding a filler as disclosed in Sheibley is that it produces pores in the separator thereby improving the conductivity of the separator (abstract).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Shinomura by adding a filler as disclosed in Sheibley since it would have produced pores in the separator and thereby improved the conductivity of the separator.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Shinomura by incorporating fillers in the separator as taught by Shinomura wherein the filler particles have an average particle size of less than about 50 microns as taught by Sheibley since it would have improved the conductivity of the separator. Generally, differences in ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. In re Boesche, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 14, 16, 21, 22 and 24 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument based upon the age of the references, contentions that the reference patents are old are not impressive absent a showing that the art tried and failed to solve the same problem notwithstanding its presumed knowledge of the references. See *In re Wright*, 569 F.2d 1124, 193 USPQ 332 (CCPA 1977).



Furthermore, the invention as recited in some of the claims is drawn to a generic battery and thus the age of the references would clearly fall within the scope of the claimed invention since generic batteries have been in existence for well before the date of the prior art of Shinomura.

***Claim Rejections - 35 USC § 103***

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 4,197,148 (Shinomura) in view of Sheibley as applied to claim 14 above and in further view of U.S. patent No. 5,928,812 (Xue) and U.S. patent No. 5,846,673 (Saidi).

The differences not yet discussed are of the tackifier being poly(vinylidene fluoride-hexafluoropropene) in an amount up to 50% by weight.

Xue (col. 4, ll. 41-58) discloses that the binding polymer (i.e., a tacking agent) used in the electrodes and separator elements is preferably a thermoplastic polymer and may be any suitable copolymer, but is preferably and commonly, in commercial cells, a copolymer of poly(vinylidene fluoride)-hexafluoropropylene (or PVdF-HFP).

Saidi discloses adding PVdF-HFP binder (i.e., a tacking agent) to the separator in a weight percent of less than 50% (col. 12).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Shinomura by using PVdF-HFP as a binding or tacking agent since it would have provided a material having excellent binding properties and thus form a separator having improved mechanical characteristics. The selection of a known material based on its suitability for its

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intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). MPEP § 2144.07.

Generally, differences in ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. *In re Boesche*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinomura in view of Sheibley as applied to claim 14 above and in further view of U.S. patent No. 3,689,334 (Dermody).

The teachings of Shinomura with respect to claim 14 have been discussed above and are incorporated herein.

The difference between claim 23 and Shinomura is that Shinomura does not teach of the hot-melt adhesive of claim 23.

Alkyl acrylate hot-melt adhesives are known in the art for the purpose of securing metal materials to polymeric materials.

The motivation for using alkyl acrylate hot-melt adhesives is that it provides a suitable adhesive for binding metal materials to polymer materials.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Shinomura by using alkyl acrylate hot-melt adhesives is that it provides a suitable adhesive for binding metal

materials to polymer materials. The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). MPEP § 2144.07.

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 4,197,148 (Shinomura) in view of Xue and Saidi, all of record.

Shinomura discloses a separator which is used in a battery (a battery inherently comprising a positive electrode, negative electrode, electrolyte and porous separator membrane), wherein the membrane comprises a hot-melt adhesive and an engineering plastic (abstract, col. 1, ll. 5-9 and col. 2, ll. 30-40 as applied to claim 25).

The difference between the instant claims identified herein and Shinomura is that does not teach of a tackifier (claims 14 and 25).

The differences not yet discussed are of the tackifier being poly(vinylidene fluoride-hexafluoropropene) in an amount up to 50% by weight.

Xue (col. 4, ll. 41-58) discloses that the binding polymer (i.e., a tacking agent) used in the electrodes and separator elements is preferably a thermoplastic polymer and may be any suitable copolymer, but is preferably and commonly, in commercial cells, a copolymer of poly(vinylidene fluoride)-hexafluoropropylene (or PVdF-HFP).

Saidi discloses adding PVdF-HFP binder (i.e., a tacking agent) to the separator in a weight percent of less than 50% (col. 12).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Shinomura by using PVdF-

HFP as a binding or tacking agent since it would have provided a material having excellent binding properties and thus form a separator having improved mechanical characteristics. The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). MPEP § 2144.07.

Generally, differences in ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. *In re Boesche*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

### ***Claim Rejections - 35 USC § 103***

11. Claims 14 and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP '796 in view of Sheibley.

EP '796 discloses a lithium ion battery comprising a positive electrode, negative electrode, electrolyte and porous separator membrane wherein the membrane comprises a microporous sheet and an adhesive therein. The adhesive is dispersed throughout the polymer (paragraph [0011]) and thus is a homogenous mixture of the plastic and adhesive (as applied to claims 14 and 25).

The battery is a lithium ion battery and thus the positive electrode is a lithium-ion positive electrode (abstract and paragraph [0003] as applied to claim 17).

The battery is a lithium ion battery and thus the negative electrode is a lithium-ion negative electrode (abstract and paragraph [0003] as applied to claim 18).

The battery is a lithium ion battery and thus the electrolyte ode is a lithium-ion electrolyte (abstract and paragraph [0003] as applied to claim 19).

The battery is a lithium ion battery electrolyte is a liquid lithium ion electrolyte or polymer lithium ion electrolyte (abstract and paragraph [0009] as applied to claim 20).

With respect to claim 21:

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted).

"The Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. In re Fessmann, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292

(Fed. Cir. 1983). Ex parte Gray, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989). See MPEP section 2113.

Claim 21 is void of any characteristics or particular features which are only obtained through heat activation. The prior art of record provides a microporous membrane in the same manner as claim 14 and binds the membrane to the electrodes. Therefore the prior art of record has the same claimed configuration.

The differences between claims 14 and 16 and EP '796 is that EP '796 does not teach of adding a filler.

An inorganic filler is added to separators in a weight percentage of less than 50% by weight and has an average particles size ranging from 0.01-3 microns or from 0.1-20 microns(see Sheibley's abstract and col. 3, ll. 8-20 and 38-45 and col. 4, ll. 60-66).

The motivation for adding a filler as disclosed in Sheibley is that it produces pores in the separator thereby improving the conductivity of the separator (abstract).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of EP '796 by adding a filler as disclosed in Sheibley since it would have produced pores in the separator and thereby improved the conductivity of the separator.

12. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP '796 in view of Sheibley as applied to claim 14 above, and further in view of U.S. patent No. 5,928,812 (Xue) and U.S. patent No. 5,846,673 (Saidi).

The difference not yet discussed is of the tackifier being poly(vinylidene fluoride-hexafluoropropene) in an amount up to 50% by weight.

Xue (col. 4, ll. 41-58) discloses that the binding polymer (i.e., a tacking agent) used in the electrodes and separator elements is preferably a thermoplastic polymer and may be any suitable copolymer, but is preferably and commonly, in commercial cells, a copolymer of poly(vinylidene fluoride)-hexafluoropropylene (or PVdF-HFP).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of EP '796 by using PVdF-HFP as a binding or tacking agent since it would have provided a material having excellent binding properties and thus form a separator having improved mechanical characteristics. The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). MPEP § 2144.07.

Saidi discloses adding PVdF-HFP binder (i.e., a tacking agent) to the separator in a weight percent of less than 50% (col. 12).

Generally, differences in ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. *In re Boesche*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

13. Claim 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP '796 in view of U.S. patent No. 4,985,317 (Adachi), U.S. patent No. 5,928,812 (Xue) and U.S. patent No. 5,846,673 (Saidi).

EP '796 discloses a lithium ion battery comprising a positive electrode, negative electrode, electrolyte and porous separator membrane wherein the membrane comprises a microporous sheet and an adhesive therein. The adhesive is dispersed throughout the polymer (paragraph [0011]) and thus is a homogenous mixture of the plastic and adhesive (as applied to claim and 25).

The difference between claim 25 and EP '796 is that EP '796 does not teach of adding a tackifier in the amount of about 2% to about 50%.

Adachi teaches that it is known to add tackifiers to the microporous membrane to improve the adhesion of the separator membrane to the adjacent electrodes.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of EP '796 by adding a tackifier to the microporous membrane since it would have improved the adhesion of the separator membrane to the adjacent electrodes.

Xue (col. 4, ll. 41-58) discloses that the binding polymer (i.e., a tacking agent) used in the electrodes and separator elements is preferably a thermoplastic polymer and may be any suitable copolymer, but is preferably and commonly, in commercial cells, a copolymer of poly(vinylidene fluoride)-hexafluoropropylene (or PVdF-HFP).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of EP '796 by using PVdF-HFP as a binding or tacking agent since it would have provided a material having excellent binding properties and thus form a separator having improved mechanical characteristics. The selection of a known material based on its suitability for its



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intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). MPEP § 2144.07.

Saidi discloses adding PVdF-HFP binder (i.e., a tacking agent) to the separator in a weight percent of less than 50% (col. 12).

Generally, differences in ranges will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such ranges is critical. *In re Boesche*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

### ***Response to Arguments***

14. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPAT No. 3,351,495 (Larsen) discloses various battery separators. GB 2169129 A and GB 2167600 A each disclose of siliceous filler-reinforced microporous battery separators.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (571) 272-1283. The examiner can normally be reached on Monday to Thursday from 9 a.m. to 6 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

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supervisor, Pat Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

FAXES received after 4 p.m. will not be processed until the following business day.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

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more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Gregg Cantelmo  
Primary Examiner  
Art Unit 1745

gc

A handwritten signature in black ink, appearing to read "Gregg Cantelmo", written over a horizontal line.

December 6, 2004